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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/903,936	07/12/2001	George John Dawkins	AUS920010385US1	1979

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EXAMINER

DAS, CHAMELI

ART UNIT

PAPER NUMBER

2122

41

DATE MAILED: 04/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/903,936

Applicant(s)

DAWKINS ET AL.

Examiner

C.DAS

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-24 are pending.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Held, US 5,889,988 and further in view of Bouchier et al, (Bouchier), US 6,684,343

As per claim 1, Held (US 5,889,988) discloses:

- an operating system debugger (column 1, lines 11-14, “ The present invention relates to the field of debuggers for computers. In particular, the present invention describes a *debugger for debugging tasks in an operating system* virtual device driver”) and (column 2, lines 35-37)

-establishing extensions within operating system debugger (column 6, lines 29-36, “ SPOX kernel shell ... SPOX debug extensions”), (column 6, lines 66-67- column 7, lines 1-15, “ The debug support in IA-SPOX is layered on the basic ... AS part of the SPOX debug extension, key functions in the SPOX kernel shell 492 have been modified to provide further debugger support”).

Held discloses operating system debugger. Held does not specifically disclose *partition management firmware*. However, Bouchier (US 6,684,343) *discloses partition management firmware which is debugged* (column 2, lines 27-28, “ A service

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processor is used to *manage the partitions* and the hardware they run on” , column 4, lines 40-42, “ Also shown in Fig 1 is system firmware 901 running on the processors of cell 0 and cell 1, in partition 0”), where the cells are the partitions (column 4, lines 25-30) and (column 12, lines 59-61, “ A user runs a debugger client 902 on their workstation 901 to debug the OS or FW”). The modification would be obvious because one of the ordinary skill in the art would be motivated to provide the isolation between different applications so that a fatal error in one partition would not affect the other partitions.

As per claim 2, Held discloses:

- *establishing function calls ... operations* (column 8, lines 3-15, “ The DSP debug API 441 is event-based. The debugger 440 *calls* the DSP debug API 441 periodically to wait for debug events (with a time-out). The debug events include the creation and exit of a task, the loading and unloading of a module (e.g. DLL), text output directed to the debugger from the task, and exceptions. A debug event structure includes the task handle, and an event code and corresponding event information. Exception events contain a record that provides details about the particular exception that has occurred. The DSP debug API 441 includes functions to *control task execution*, query and alter a task's environment, and control the debugging process (e.g. wait for an event).

Held does not specifically disclose *partition management firmware*. However, Bouchier *discloses partition management firmware which is debugged* (column 4, lines 40-42, “ Also shown in Fig 1 is system firmware 901 running on the processors of cell 0 and cell 1, in partition 0”), where the cells are the partitions (column 4, lines 25-30) and (column 12, lines 59-61, “ A user runs a debugger client 902 on their workstation 901 to debug the OS or FW”). The modification would be obvious because one of the ordinary skill in the art would be motivated to provide the isolation between different applications so that a fatal error in one partition would not affect the other partitions.

As per claim 3, Held discloses:

- *establishing an event handler ... debugger* (column 8, lines 3-15, column 9, lines 51-58, “ The debug task 444 also fields messages from software interrupt handlers (ISRs), such as exception handler 650, to provide for the catching of exceptions such as page faults 655. The ISRs simply post a message to the debug task 444 and suspend their current task. The debug task then notifies the debugger 440 of the exception and eventually kills or resumes the task after the user has altered its context.”)

- *invoking said event... debugger* (column 8, lines 3-15, column 8, lines 31-60, column 9, lines 51-58)

- *reporting ... event handler routine* (column 6, lines 3-15, column 6, lines 31-37, column 9, lines 46-58). For partition management firmware, see the rejection of claim 1 above.

As per claim 4, Held discloses:

- *establishing a read memory call ... read memory function call* (column 9, lines 28-45). For partition management firmware, see the rejection of claim 1 above.

As per claim 5, Held discloses:

- *establishing a write memory call ... read memory function call* (column 9, lines 28-45). For partition management firmware, see the rejection of claim 1 above.

As per claim 6, Held discloses:

- *determining whether debugging is enabled ... debugging is disabled* (column 8, lines 31-37, column 9, lines 4-10, column 9, lines 52-58). For partition management firmware, see the rejection of claim 1 above.

As per claim 7, Held discloses:

- including a service processor ... system (column 6, lines 1-6, column 6, lines 29-30, column 7, lines 9-12)

- enabling debugging ... processor (column 8, lines 31-37, column 9, lines 4-10, column 9, lines 52-58)

- disabling debugging ... processor (column 8, lines 31-37, column 9, lines 4-10, column 9, lines 52-58).). For partition management firmware, see the rejection of claim 1 above.

As per claim 8, Held discloses:

- data processing system includes hardware (column 3, lines 38-41)

- operating system debugger (column 1, lines 10-13)

Held does not specifically disclose debugger exists within a partition and partition management firmware exists between partition and hardware. However, Bouchier discloses debugger exists within a partition (Bouchier, column 12, lines 49-50, “ The debugger stub, which runs on the partition or cell being debugged”) and partition management firmware exists between partition and hardware (Bouchier, column 2, lines 27-28, column 4, lines 60-65). The modification would be obvious because one of the ordinary skill in the art would be motivated to provide the isolation between different applications so that a fatal error in one partition would not affect the other partitions.

Claims 9-16 are the program product claims corresponding to the method claims 1-8 and rejected under the same reason set forth in connection of the rejections of claims 1-8.

Claims 17-24 are the system claims corresponding to the method claims 1-8 and rejected under the same reason set forth in connection of the rejections of claims 1-8.

4. The prior art made or record and not relied upon is considered pertinent to applicant's disclosure.

TITLE: Operating system debugger using kernel and dynamic extension with debugger drivers to support different output devices, US 5958049 A

TITLE: Security framework for dynamically wrapping software applications executing in a computing system, US 6658571 B1

TITLE: Method and apparatus for dynamically sharing memory in a multiprocessor system, US 6381682 B2

TITLE: Method for synchronizing plurality of time of year clocks in partitioned plurality of processors where each partition having a microprocessor configured as a multiprocessor backplane manager, US 6711693 B1

TITLE: Memory management in embedded systems with dynamic object instantiation, US 6546477 B1

TITLE: System, method and program for debugging external programs in client/server-based relational database management systems, US 6324683 B1

TITLE: Method for debugging an integrated circuit using extended operating modes, US 5828824 A

TITLE: Method, apparatus and computer program product for debugging a computer's boot process, US 6289448 B1

TITLE: Method and apparatus for providing improved diagnostic functions in a computer system, US 6449735 B1

TITLE: Logical partition manager and method, US 6691146 B1

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TITLE: Debugging Concurrency Extensions for Standard ML, author: Tolmach et al, ACM, 1991.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chameli Das whose telephone number is 703-305-1339.

The examiner can normally be reached on Monday-Friday from 7:00 A.M. to 3:30 P.M. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor Tuan Dam can be reached at 703-305-4552. The fax number for this group is (703) 872-9306.

An inquiry of general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-9600.

Chameli C Das
CHAMELI C. DAS
PRIMARY EXAMINER

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4/28/04